

Application No. 10/660,314
Amendment dated August 25, 2004
Reply to Office Action of May 25, 2004

Docket No. 1232-5144

Amendments to the Claims:

Claims 1-23 are pending in this application. Claims 1, 17 and 23 are independent.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (CURRENTLY AMENDED): An electrophotographic display, comprising:

a plurality of microcapsules each having an internal surface and an external surface and encapsulating therein an insulating liquid and a plurality of charged electrophoretic particles dispersed in the insulating liquid; [.,.]

a first substrate and a second substrate disposed opposite to each other so as to sandwich said plurality of microcapsules; [.,.] and

a plurality of electrodes capable of being supplied with a voltage a first electrode disposed on the first substrate and an electroconductive member as a second electrode,

wherein a voltage is applied between said plurality of electrodes to move said electroconductive member at least partially fills a space defined by the first and second substrates and the external surfaces of adjacent microcapsules, and said charged electrophoretic particles move between a first internal wall portion of each microcapsule on the external surface of which contacts said first substrate electrode and a second internal wall portion of each microcapsule on the external surface of which is substantially out of contact with both said first and second substrates contacts said second electrode, thereby to switch a display state.

2 (ORIGINAL): A display according to claim 1, wherein said plurality of electrodes comprise a first electrode disposed along said first substrate and a second electrode which is

Application No. 10/660,314
Amendment dated August 25, 2004
Reply to Office Action of May 25, 2004

Docket No. 1232-5144

electrically isolated from the first electrode and is disposed at least a part of a space enclosed with said first and second substrates and the surfaces of microcapsules.

3 (ORIGINAL): A display according to claim 2, wherein the second electrode is filled in at least a part of the space.

4 (ORIGINAL): A display according to claim 2, wherein the second electrode comprises an electroconductive member and is filled in at least a part of the space.

5 (ORIGINAL): A display according to claim 4, wherein the electroconductive member comprises a liquid.

6 (ORIGINAL): A display according to claim 4, wherein the electroconductive member comprises a metal.

7 (ORIGINAL): A display according to claim 2, wherein the second electrode is formed and disposed on the first substrate or the second substrate in the form of a projection.

8 (ORIGINAL): A display according to claim 2, wherein the second electrode is formed and disposed on an upper or lower surface or within a member which is formed on the first substrate or the second substrate in the form of a projection.

9 (ORIGINAL): A display according to any claim 2, wherein each microcapsule has a flattened shape.

Application No. 10/660,314
Amendment dated August 25, 2004
Reply to Office Action of May 25, 2004

Docket No. 1232-5144

10 (ORIGINAL): A display according to claim 2, wherein each microcapsule has a flattened and rectangular shape and is in surface contact with the first electrode.

11 (ORIGINAL): A display according to claim 2, wherein said microcapsules are disposed on a random basis irrespective of a position of the first electrode.

12 (ORIGINAL): A display according to claim 2, wherein each microcapsule is disposed in alignment with a position of the first electrode.

13 (ORIGINAL): A display according to claim 2, wherein the first electrode has a projected surface toward the second substrate.

14 (ORIGINAL): A display according to claim 2, wherein the second electrode is a common electrode for all pixels.

15 (ORIGINAL): A display according to claim 2, wherein a third electrode is disposed on the second substrate.

16 (ORIGINAL): A display according to claim 2, wherein the display has a plurality of pixels each comprising a plurality of microcapsules, and the second electrode is disposed at a boundary between mutually adjacent two pixels.

17 (CURRENTLY AMENDED): A process for producing an electrophoretic display including a plurality of microcapsules each encapsulating therein an insulating liquid and a plurality of

Application No. 10/660,314
Amendment dated August 25, 2004
Reply to Office Action of May 25, 2004

Docket No. 1232-5144

charged electrophoretic particles dispersed in the insulating liquid, a first substrate and a second substrate disposed opposite to each other so as to sandwich the plurality of microcapsules, a first electrode disposed along the first substrate and a second electrode which is electrically isolated from the first electrode and is disposed at least a part of a space enclosed with the first and second substrates and the surfaces of microcapsules; said process comprising:

- (1) a step of forming the first electrode on the first substrate,
- (2) a step of disposing the plurality of microcapsules on the first or second substrate,
- (3) a step of disposing the first and second substrate so as to sandwich the plurality of microcapsules, and
- (4) a step of ~~forming the second electrode in a space between adjacent microcapsules at least partially filling the space defined by the first and second substrates and external surfaces of adjacent microcapsules with an electroconductive member thereby forming the second electrode~~ before or after the step (3).

18 (ORIGINAL): A process according to claim 17, wherein the step (4) of forming the second electrode is performed after the step (3) and includes a step of incorporating an electroconductive member in a space between the first and second substrates.

19 (ORIGINAL): A process according to claim 17, wherein the step (4) of forming the second electrode is performed after the step (3) and includes a step of injecting an electroconductive member in the space between adjacent microcapsules from an injection port disposed in a position where the

Application No. 10/660,314
Amendment dated August 25, 2004
Reply to Office Action of May 25, 2004

Docket No. 1232-5144

injection port contacts the space.

20 (ORIGINAL): A process according to claim 17, wherein the step (4) of forming the second electrode is performed before the step (3) and includes a step of disposing each microcapsule between adjacent second electrodes formed on the first and second substrates in the form of a projection.

21 (ORIGINAL): A process according to claim 17, wherein the step (4) of forming the second electrode is performed before the step (3) and includes a step of forming the second electrode in the space between adjacent microcapsules by electroplating.

22 (ORIGINAL): A process according to claim 17, wherein the process further comprises, after the step (3), a step of flattening the microcapsule by applying a pressure to the first and second substrates.

23 (CURRENTLY AMENDED): A process for producing an electrophoretic display including a plurality of microcapsules each encapsulating therein an insulating liquid and a plurality of charged electrophoretic particles dispersed in the insulating liquid, a first substrate and a second substrate disposed opposite to each other so as to sandwich the plurality of microcapsules, a first electrode disposed along the first substrate and a second electrode which is electrically isolated from the first electrode and is disposed at least a part of a space enclosed with the first and second substrates and the surfaces of microcapsules; said process comprising:

a first step of preparing a laminated structure including an insulating layer and a

Application No. 10/660,314
Amendment dated August 25, 2004
Reply to Office Action of May 25, 2004

Docket No. 1232-5144

projection-shaped electroconductive member, as the second electrode, disposed on the insulating layer by forming the electroconductive member at a recess of a mold substrate at least partially filling a recess of a mold substrate with the electroconductive member, laminating the insulating layer on the electroconductive member, and removing the laminated structure from the mold substrate, a second step of disposing the plurality of microcapsules so that the projection-shaped electroconductive member is located between adjacent microcapsules, and a third step of bonding the first and second substrates to each other by using the laminated structure, in which the microcapsules are disposed, as the first or second substrate.